CLAIMS:

1. A method of making a nonwoven web, the method comprising:

a) providing a plurality of fibers;

b) subjecting the fibers to a pneumatic attenuation force in a drawing slot, the attenuation force imparting a velocity to the fibers;

c) reducing the velocity of the fibers in a diffusion chamber, the diffusion chamber being formed substantially between opposed diverging sidewalls;

d) subjecting the fibers to an applied electrostatic charge before the fibers enter the diffusion chamber, wherein the electrostatic charge is applied by two or more oppositely directed electrostatic charging units; and thereafter

e) collecting the fibers into a web on a moving forming surface.

2. The method of Claim 1 wherein at least one electrostatic charging unit is located substantially closer to the diffusion chamber than at least one other electrostatic charging unit.

3. The method of Claim 1 wherein the opposed diverging sidewalls are unvented.

4. The method of Claim 1 wherein the pneumatic attenuation force is provided by perturbed attenuation air.

5. The method of Claim 1 wherein at least one of the opposed diverging sidewalls comprises at least one vortex generator.

6. An apparatus for forming a nonwoven web comprising:

a) a source of fibers;

b) a fiber drawing slot formed between opposed slot sidewalls;

c) a diffusion chamber formed substantially between opposed diverging sidewalls, the diffusion chamber located below the drawing slot;

d) two or more oppositely directed electrostatic charging units located above the diffusion chamber; and

e) a forming surface for collecting the fibers as a nonwoven web.

7. The apparatus of Claim 6 wherein at least one electrostatic charging unit is located substantially closer to the diffusion chamber than at least one other electrostatic charging unit.

8. The apparatus of Claim 6 wherein the opposed diverging sidewalls are unvented.

9. The apparatus of Claim 6 further comprising a means for providing perturbed attenuating air to the drawing slot.

10. The apparatus of Claim 6 wherein at least one of the opposed diverging sidewalls comprises at least one vortex generator.

11. A method of making a nonwoven web, the method comprising:

a) providing a plurality of fibers;

b) subjecting the fibers to a pneumatic attenuation force in a drawing slot, the attenuation force imparting a velocity to the fibers;

c) reducing the velocity of the fibers in a diffusion chamber, the diffusion chamber being formed substantially between opposed diverging sidewalls;

d) subjecting the fibers to an applied electrostatic charge while the fibers are in the diffusion chamber, the electrostatic charge being applied by at least one electrostatic charging unit located upon a diverging sidewall; and thereafter

e) collecting the fibers into a web on a moving forming surface.

12. The method of Claim 11 wherein the electrostatic charge is applied by two or more oppositely directed electrostatic charging units and at least one electrostatic charging unit is located upon each of the diverging sidewalls.

13. The method of Claim 12 wherein at least one electrostatic charging unit is located substantially closer to the drawing slot than at least one other electrostatic charging unit.

14. The method of Claim 11 wherein the pneumatic attenuation force is provided by perturbed attenuation air.

15. The method of Claim 12 wherein the opposed diverging sidewalls are unvented.

16. The method of Claim 11 wherein at least one of the opposed diverging sidewalls comprises at least one vortex generator.

17. An apparatus for forming a nonwoven web comprising:

a) a source of fibers;

b) a fiber drawing slot formed between opposed slot sidewalls;

c) a diffusion chamber formed substantially between opposed diverging sidewalls, the diffusion chamber located below the drawing slot;

d) at least one electrostatic charging unit located upon one of the diverging sidewalls of the diffusion chamber; and

e) a forming surface for collecting the fibers as a nonwoven web.

18. The apparatus of Claim 17 wherein the opposed diverging sidewalls are unvented.

19. The apparatus of Claim 17 comprising two or more oppositely directed electrostatic charging units, wherein at least one electrostatic charging unit is located upon each of the diverging sidewalls.

20. The apparatus of Claim 19 wherein at least one electrostatic charging unit is located substantially closer to the drawing slot than at least one other electrostatic charging unit.

21. The apparatus of Claim 17 further comprising a means for providing perturbed attenuating air to the drawing slot.

22. The apparatus of Claim 17 wherein at least one of the opposed diverging sidewalls comprises at least one vortex generator.

23. A method of making a nonwoven web, the method comprising:

a) providing a plurality of fibers;

b) subjecting the fibers to a pneumatic attenuation force in a drawing slot formed between opposed drawing slot sidewalls, the attenuation force imparting a velocity to the fibers;

c) subjecting the fibers to an applied electrostatic charge, the electrostatic charge applied by an electrostatic charging unit located on one of the drawing slot sidewalls;

d) reducing the velocity of the fibers in a diffusion chamber, the diffusion chamber being formed substantially between opposed diverging sidewalls; and thereafter

e) collecting the fibers into a web on a moving forming surface;

wherein the pneumatic attenuation force is provided by attenuation air entering the drawing slot only from the drawing slot sidewall opposing the drawing slot sidewall upon which the electrostatic charging unit is located.